

Abstract

A method and implementation for detecting and characterizing audible transients in noise includes placing a microphone in a desired location, producing a microphone signal wherein the microphone signal is indicative of the acoustic environment, processing the microphone signal to estimate the acoustic activity that takes place in the human auditory system in response to the acoustic environment, producing an excitation signal indicative of the estimated acoustic activity, processing the excitation signal to identify each impulsive sound frequency-dependent activity as a function of time, producing a detection signal indicative of audible impulse sounds, processing the detection signal to identify an audible impulsive sound, and characterizing each impulsive sound.

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